

State of California
AIR RESOURCES BOARD

CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES
FOR 1995 AND LATER SMALL OFF-ROAD ENGINES

Adopted: March 20, 1992
Amended: April 8, 1993
Amended: August 29, 1994
Amended: May 26, 1995
Amended: March 23, 1999
Amended: January 28, 2000

NOTE: This document is printed in a style to indicate proposed changes from the existing provisions.

All existing language in Parts I-VI is indicated by plain type. All proposed additions to language in parts I-VI are indicated by underlined text. All proposed deletions to language are indicated by ~~strikeout~~. Only those portions containing the suggested modifications from the existing language are included. All other portions remain unchanged and are indicated by the symbol "* * * *" for reference.

The numbering convention employed in this document, in order of priority, is:
I.1.a.1.i.A.

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
Part I. Emission Regulations for 1995 and Later New Lawn and Garden and Utility Equipment <u>Small Off-Road</u> Engines, General Provisions.....	4
1. General Applicability.	4
9. Exhaust Emission Standards For 1995 and Later Utility and Lawn and Garden <u>Small Off-Road</u> Engines.	5
20. Test Procedures, General Requirements.	8
Part VI. Compression Ignition Engines—General Provisions and Test Procedures for 2000 and Subsequent Model Years	9
Subpart A—General.....	9
§89.1 Applicability.	9
§89.2 Definitions.....	9
§89.3 Acronyms and abbreviations.	11
§89.4 Section Numbering.....	11
§89.5 Table and figure numbering; position.	11
§89.6 Reference materials.....	11
§89.7 Treatment of confidential information.	12
Appendix A to Subpart A—Internal Combustion Engines Manufactured Prior to July 18, 1994..	12
Subpart B—[Amended].....	12
§89.101-96 Applicability.	12
§89.102-96 Effective dates, optional inclusion.....	12
§89.103 Definitions.....	15
§89.104-96 Useful life, recall, and warranty periods	15
§89.105 Certificate of conformity.....	15
§89.106 Prohibited controls.....	16
§89.107 Defeat devices.	16
§89.108 Adjustable parameters, requirements.....	16
§89.109-96 Maintenance instructions and minimum allowable maintenance intervals.....	16
§89.110-96 Emission control information label.....	19
§89.111 Averaging, banking, and trading of exhaust emissions.	20
§89.112-96 Oxides of nitrogen, carbon monoxide, hydrocarbon, and particulate matter exhaust emission standards	20
§89.113 Smoke emission standard.....	22
§89.114 Special test procedures.	22
§89.115 Application for certificate.	22
§89.116 Engine families.	23
§89.117-96 Test fleet selection.....	23
§89.118-96 Service accumulation.....	23
§89.119 Emission tests.....	24
§89.120-96 Compliance with emission standards	24
§89.121 Certificate of conformity effective dates.....	26

§89.122 Certification.....	26
§89.123 Amending the application and certificate of conformity.	26
§89.124 Record retention, maintenance, and submission.....	26
§89.125 Production engines, annual report.	26
§89.126-96 Denial, revocation of certificate of conformity	26
§89.127 Request for hearing.....	27
§89.128 Hearing procedures.....	27
§89.129 Right of entry.	27
§89.130 Rebuild practices	27
Subpart C—Averaging, Banking, and Trading Provisions.....	28
§89.201 Applicability.	28
§89.202 Definitions.	28
§89.203-96 General provisions.....	29
§89.204-96 Averaging.....	31
§89.205-96 Banking.....	32
§89.206-96 Trading.....	33
§89.207-96 Credit calculation.....	33
§89.208-96 Labeling	34
§89.209-96 Certification.....	34
§89.210-96 Maintenance of records.....	34
§89.211-96 End-of-year and final reports	35
§89.212-96 Notice of opportunity for hearing.....	36
Subpart D—Emission Test Equipment Provisions	36
§89.302-96 Definitions.....	36
Subpart E—Exhaust Emission Test Procedures	36
Subpart F—Selective Enforcement Auditing.....	36
Subpart G—Importation of Nonconforming Nonroad Engines	36
§89.602 Definitions.....	36
§89.603 General requirements for importation of nonconforming nonroad engines.	36
§89.604 Conditional admission.....	37
§89.605 Final admission of certified nonroad engines.....	37
§89.609 Final admission of modification nonroad engines and test nonroad engines.	38
§89.610 Maintenance instructions, warranties, emission labeling.....	38
§89.611 Exemptions and exclusions.	38
Subpart H—Recall Regulations	39
Subpart I—Emission Defect Reporting Requirements.....	39
Subpart J—Exemption Provisions	39
§89.903 Application of section 216(10) of the Act.	39
§89.905 Testing exemption	39
§89.906 Manufacturer-owned exemption and precertification exemption.	39
§89.911 Submission of exemption requests.....	40
Subpart K—General Enforcement Provisions and Prohibited Acts.....	40

CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES
FOR 1995 AND LATER SMALL OFF-ROAD ENGINES

Part I. Emission Regulations for 1995 and Later New Small Off-Road Engines, General Provisions.

1. General Applicability.

(a) Parts I-V of these provisions apply to spark-ignition small off-road engines produced on or after January 1, 1995, and any equipment that uses such engines produced on or after January 1, 1995. Despite the use of the term "spark-ignition engine" throughout Parts I-V, Parts I-V of these provisions apply to compression-ignition small off-road engines produced on or after January 1, 1995 and prior to the 2000 model year, and any equipment that uses such engines produced on or after January 1, 1995 and prior to the 2000 model year. ~~Parts I and VI of these provisions apply to compression-ignition engines produced during the 2000 and later model years, and any equipment that uses such engines produced during the 2000 and later model years.~~ These provisions do not apply to all engines and equipment that fall within the scope of the preemption of Section 209(e)(1)(A) of the Federal Clean Air Act, as amended, and as defined by regulation of the Environmental Protection Agency.

* * * *

9. Exhaust Emission Standards For 1995 and Later Small Off-Road Engines.

* * * *

(b) Exhaust emissions from small off-road engines manufactured for sale, sold, offered for sale, introduced, delivered or imported into California for introduction into commerce must not exceed:

Exhaust Emission Standards {grams per brake horsepower-hour} [grams per kilowatt-hour]						
Calendar Year	Engine Class ⁽¹⁾	Hydrocarbon plus oxides of nitrogen ⁽²⁾	Hydro-carbon ⁽²⁾	Carbon Monoxide	Oxides of Nitrogen	Particulate
1995	I	12.0	--	300	--	0.9 ⁽³⁾
	II	10.0	--	300	--	0.9 ⁽³⁾
	III ⁽⁴⁾	--	220	600	4.0	--
	IV ⁽⁴⁾	--	180	600	4.0	--
	V ⁽⁴⁾	--	120	300	4.0	--
1996 to 1999	I	12.0 ⁽⁵⁾	--	350	--	0.9 ⁽³⁾
	II	10.0 ⁽⁵⁾	--	350	--	0.9 ⁽³⁾
	III ⁽⁴⁾	--	220 ⁽⁵⁾	600	4.0 ⁽⁵⁾	--
	IV ⁽⁴⁾	--	180 ⁽⁵⁾	600	4.0 ⁽⁵⁾	--
	V ⁽⁴⁾	--	120 ⁽⁵⁾	300	4.0 ⁽⁵⁾	--

Model Year	Engine Class ⁽¹⁾	Durability Periods (hours)	Hydrocarbon plus oxides of nitrogen ⁽²⁾	Carbon Monoxide	Particulate
2000-2001 ⁽⁵⁾	SI 0-65 cc, inclusive	50/125/300	54 [72]	400 [536]	1.5 ⁽⁴⁾ [2.0]
	SI >65 cc - <225 cc	N/A	12.0 [16.1]	350 [467]	
	SI ≥225 cc	N/A	10.0 [13.4]	350 [467]	
2002-2005 ⁽⁵⁾	Spark-Ignition (SI) Engines 0-65 cc, inclusive	50/125/300	54 [72]	400 [536]	1.5 ⁽⁴⁾ [2.0]
	SI > 65 cc - <225 cc Horizontal	125/250/500	12.0 [16.1]	410 [549]	
	SI >65 cc - <225 cc Vertical	NA	12.0 [16.1]	350 [467]	
	SI ≥225 cc	125/250/500	9.0 [12.0]	410 [549]	
2006 and sub- sequent ⁽⁵⁾	SI 0-65 cc, inclusive	50/125/300	54 [72]	400 [536]	1.5 ⁽⁴⁾ [2.0]
	SI >65 cc - <225 cc	125/250/500	12.0 [16.1]	410 [549]	
	SI ≥225 cc	125/250/500	9.0 [12.0]	410 [549]	

2000-2004 ⁽⁵⁾	CI <11 hp	3000 hours or 5 years	7.8 {10.4}	6.0 {8.0}	0.75 {1.0}
	CI ≥11 <25 hp	3000 hours or 5 years	7.1 {9.5}	4.9 {6.6}	0.6 {0.8}
2005 and sub- sequent ⁽⁵⁾	CI <11 hp	3000 hours or 5 years	5.6 {7.5}	6.0 {8.0}	0.6 {0.8}
	CI ≥11 <25 hp	3000 hours or 5 years	5.6 {7.5}	4.9 {6.6}	0.6 {0.8}

- (1) "Class I" means small off-road engines greater than 65 cc to less than 225 cc in displacement.
"Class II" means small off-road engines greater than or equal to 225 cc in displacement.
"Class III" means small off-road engines less than 20 cc in displacement.
"Class IV" means small off-road engines 20 cc to less than 50 cc in displacement.
"Class V" means small off-road engines greater than or equal to 50 cc to 65 cc in displacement.
- (2) The Executive Officer may allow gaseous-fueled (i.e., propane, natural gas) engine families, that satisfy the requirements of the regulations, to certify to either the hydrocarbon plus oxides of nitrogen or hydrocarbon emission standard, as applicable, on the basis of the non-methane hydrocarbon (NMHC) portion of the total hydrocarbon emissions.
- (3) Applicable to all diesel-cycle engines.
- (4) Applicable to all two-stroke engines.
- (5) Engines used exclusively in snowthrowers and ice augers need not certify to or comply with the HC and NOx standards or the crankcase requirements at the option of the manufacturer.

* * * *

20. Test Procedures, General Requirements.

* * * *

(b) Certification testing of exhaust emissions.

(1) Manufacturers of spark-ignition engines must use the following:

(i) The test procedures outlined in Part III, Spark-Ignition Engines - Raw Gas Method (RGM).

(ii) Or, upon approval from the Executive Officer, the Constant Volume Sampling (CVS) test method set forth in Part IV.

(2) Manufacturers of compression-ignition engines produced on or after January 1, 1995 and prior to the 2000 model year must use the following: test procedures outlined in Part VI, Compression-Ignition Engines—General Provisions and Test Procedures.

(i) The test procedures outlined in Part III, Spark-Ignition Engines - Raw Gas Method (RGM).

(ii) Or, upon approval from the Executive Officer, the Constant Volume Sampling (CVS) test method set forth in Part IV.

* * * *

~~Part VI. ——— Compression Ignition Engines — General Provisions and Test Procedures for 2000 and Subsequent Model Years.~~

Note: This document incorporates by reference, with the noted modifications, Part 89, title 40, Code of Federal Regulations. California provisions that replace specific federal provisions are denoted by the words “DELETE” for the federal language and “REPLACE WITH” or “ADD” for the new California language. The symbols “****” and “...” mean that the federal text that immediately follows the symbols is unchanged and incorporated by reference into the California Standards and Test Procedures. Proposed additions to the federal language are indicated by underlined text and proposed deletions are indicated by ~~strikeout~~. The federal regulatory numbering system used in this document follows the federal numbering system redesignation published in U.S. EPA’s Notice of Proposed Rulemaking, dated September 24, 1997.

The following provisions of Part 89, Title 40, Code of Federal Regulations, as adopted or amended by the U.S. Environmental Protection Agency on June 17, 1994 are adopted and incorporated herein by this reference as Part VI of the California Exhaust Emission Standards and Test Procedures for 1995 and Later Small Off-Road Engines, except as altered or replaced by the provisions set forth below.

Part 89—Control of Emissions From New and In-Use Nonroad Engines

Subpart A—General

§89.1 Applicability.

~~(a) This part applies to nonroad compression ignition engines that have a gross power output below 19 kilowatts and that are used for any purpose.~~

~~(b) DELETE~~

§89.2 Definitions.

~~DELETE “Administrator”~~

~~ADD:~~

~~Administrator means the Executive Officer of the Air Resources Board or a designee of the Executive Officer.~~

~~Auxiliary marine diesel engine means a marine diesel engine that is not a propulsion marine diesel engine.~~

~~*Blue Sky Series engine* means a low-emitting nonroad engine meeting the requirements of §89.112 (f).~~

~~*Certificate of Conformity* means an Executive Order authorizing the sale and distribution of an engine family in California.~~

~~*Compression ignition engine* means an engine less than 25 horsepower with operating characteristics significantly similar to the theoretical Diesel combustion cycle. The non-use of a throttle during normal operation is indicative of a compression ignition engine.~~

~~*Constant speed engine* means an engine that is governed to operate only at rated speed.~~

~~*Crankcase emissions* means airborne substances emitted to the atmosphere from any portion of the engine crankcase ventilation or lubrication systems.~~

~~*Farm equipment or vehicle* has the meaning contained in Part 85, Subpart Q, that covers both farm and logging activities.~~

~~*Full load governed speed* is the maximum full load speed as specified by the manufacturer in the sales and service literature and certification application. This speed is the highest engine speed with an advertised power greater than zero.~~

~~*Intermediate speed* means peak torque speed if peak torque speed occurs from 60 to 75 percent of rated speed. If peak torque speed is less than 60 percent of rated speed, intermediate speed means 60 percent of rated speed. If peak torque speed is greater than 75 percent of rated speed, intermediate speed means 75 percent of rated speed.~~

~~*Marine diesel engine* means a compression ignition engine that is intended to be installed on a vessel.~~

~~*Post-manufacture marinizer* means a person who (i) produces a marine diesel engine by substantially modifying a certified or uncertified complete or partially complete engine, and (ii) is not controlled by the manufacturer of the base engine or by an entity that also controls the manufacturer of the base engine. For the purpose of this definition, "substantially modify" means changing an engine in a way that could change engine emission characteristics.~~

~~*Propulsion marine diesel engine* means a marine diesel engine that is intended to move a vessel through the water or direct the movement of a vessel.~~

~~*Rated speed* is the maximum full load governed speed for governed engines and the speed of maximum horsepower for ungoverned engines.~~

~~*Specific emissions* means emissions expressed on the basis of observed brake power, using units of g/kW-hr. Observed brake power measurement includes accessories on the engine if these accessories are required for running an emission test (except for the cooling fan). When it is not possible to test the engine in the gross conditions, for example, if the engine and transmission form a single integral unit, the engine may be tested in the net condition. Power corrections from net to gross conditions will be allowed with prior approval of the Administrator.~~

~~*Tier 1 engine* means an engine subject to the U.S. EPA Tier 1 emission standards listed in §89.112 (a).~~

~~*Tier 2 engine* means an engine subject to the U.S. EPA Tier 2 emission standards listed in §89.112 (a).~~

~~U.S. directed production volume means the number of nonroad equipment or vehicles units produced by a manufacturer for which the manufacturer has reasonable assurance that sale was or will be made to ultimate purchasers in the United States.~~

~~Vessel has the meaning given to it in 1 U.S.C. 3.~~

§89.3 Acronyms and abbreviations.

ADD:

EGR ————— exhaust gas recirculation
NMHC ————— nonmethane hydrocarbon
PM ————— particulate matter

§89.4 Section Numbering.

- (a) — DELETE
- (b) — DELETE
- (c) — DELETE

§89.5 Table and figure numbering; position.

§89.6 Reference materials.

- (b) ***
 - (1) ***

Document number and name	40 CFR part 89 reference
***** ASTM E29-93a: —“Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications”	89.120; 89.207; 89.509.

(2) * * *

Document number and name	40 CFR part 89 reference
* * * * * SAE J1151 December 1991: —“Methane Measurement Using Gas Chromatography” * * * * *	89.309

* * * * *

§89.7 Treatment of confidential information.

Appendix A to Subpart A—Internal Combustion Engines Manufactured Prior to July 18, 1994

Subpart B—[Amended] .

§89.101 Applicability.

§89.102 Effective dates, optional inclusion.

(a) — ~~This subpart applies to all engines described in §89.101 with a power rating less than 19 kW and manufactured on or after January 1, 2000.~~

* * * * *

(e) — ~~Engines meeting the voluntary standards described in §89.112 (f) may be designated as Blue Sky Series engines through the 2004 model year.~~

(d) — ~~Implementation flexibility for equipment and vehicle manufacturers. Nonroad equipment and vehicle manufacturers and may take any of the otherwise prohibited actions identified in §89.1003(a)(1) with respect to the following nonroad equipment and vehicles,~~

subject to the requirements of paragraph (e) of this section. The following allowances apply separately to each engine power category subject to standards under §89.112:

(1) — *Percent of production allowances.*

(A) — *Farm or logging.* For farm equipment or vehicles, a manufacturer may take any of the actions identified in §89.1003(a)(1) Alternative 1: for up to 30 percent of its U.S. directed production volume of such equipment and vehicles in the first year that Tier 1 engine standards apply to such engines, and for up to 15 percent of its U.S. directed production volume in each of the seven years following the first year; Alternative 2: for a portion of its U.S. directed production volume of such equipment and vehicles during the eight years immediately following the date on which Tier 1 engine standards first apply to engines used in such equipment and vehicles, provided that the eight-year sum of these portions in each year, as expressed as a percentage for each year, does not exceed 135:

(B) — *Other equipment.* For all other nonroad equipment and vehicles, a manufacturer may take any of the actions identified in §89.1003(a)(1) Alternative 1: for up to 15 percent of its U.S. directed production volume of such equipment and vehicles in the first year that Tier 1 engine standards apply to such engines, and for up to 5 percent of its U.S. directed production volume in each of the six years following the first year. Alternative 2: for a portion of its U.S. directed production volume of such equipment and vehicles during the seven years immediately following the date on which Tier 1 engine standards first apply to engines used in such equipment and vehicles, provided that the seven-year sum of these portions in each year, as expressed as a percentage for each year, does not exceed 45.

(2) — *Small volume allowances.* A nonroad equipment or vehicle manufacturer may exceed the production percentages in paragraph (d)(1) of this section in any of the years for which these percentages apply, provided that in each regulated power category, the manufacturer's excepted equipment and vehicles in that year does not exceed 100 units, and is limited to a single equipment or vehicle model.

POTENTIAL ALTERNATIVE

(d)(2) — *Small volume allowances.* A nonroad equipment or vehicle manufacturer may exceed the production percentages in paragraph (d)(1) of this section, provided that in each regulated power category, the manufacturer's total of excepted equipment and vehicles over the years in which the percent of production allowance applies does not exceed 100 units times the number of years in which the percent of production allowance applies, and is limited to a single equipment or vehicle model.

(3) — *Emission credit derived allowances.* A nonroad equipment or vehicle manufacturer may exceed the allowances in paragraph (d)(1) of this section in any of the years for which these allowances apply, by retiring sufficient NMHC + NO_x and PM emission credits obtained under the provisions of Subpart C of this Part. Equipment or vehicles for which these emission credit derived allowances are used must be excluded from the determinations required in paragraph (e) of this section.

(A) — The amount of emission credits, in megagrams, to be retired for each additional allowance must be determined separately for NMHC + NO_x and for PM as follows:

$$\text{Emission credits} = [(\text{Previous level}) - (\text{New level})] \times (\text{Category PR}) \times (\text{UL}) \times (10^{-6})$$

Where:

Previous level = 16.0 g/kW-hr NMHC + NO_x and 1.2 g/kW-hr for PM.

New level = The emission standard that would apply to the engine used in the equipment if no allowance were to be used.

Category PR = The midpoint of the power range in §89.112 applying to the engine used in the equipment for which the allowance is being used.

UL = The useful life for the engine family, in hours.

(B) — A nonroad equipment or vehicle manufacturer choosing to retire emission credits must submit an end-of-the-year report in accordance with the requirements of §89.211 in each year that credits are retired.

(4) — *Inclusion of previous tier engines.* Equipment and vehicles built with previous tier or noncertified engines under the existing inventory provisions of §89.1003(b)(4) need not be included in determining compliance with paragraphs (d)(1), (d)(2), and (d)(3) of this section, at the manufacturer's option.

(e) — *Determination of compliance and recordkeeping.* The following applies to nonroad equipment or vehicle manufacturers who produce excepted equipment or vehicles under the provisions of paragraph (d) of this section:

(1) — After each year in which excepted equipment or vehicles are produced, a determination of compliance with the requirements of paragraph (d) of this section must be made. This determination shall be based on actual production information from the subject year and must be made within 3 months after the availability of such information. Should any such determination reveal that a production percentage allowance (or small volume allowance where applied) for a power category has been exceeded for the subject year, the nonroad equipment or vehicle manufacturer must adjust that category's percentage allowance and small volume allowance for the year after the subject year (from zero in the year after the final year of the allowance). The percentage allowance must be recalculated by subtracting the excess percentage of excepted machines from the percentage allowance that would otherwise apply in the year after the subject year. The small volume allowance must be recalculated by subtracting the excess number of excepted machines in the subject year from 100 (from zero in the year after the final year of the allowance). If both the recalculated percentage allowance and the recalculated small volume allowance for the year after the subject year is less than zero in any power category, then the manufacturer is in violation of section 203 of the Act and §89.1003 of these regulations.

POTENTIAL ALTERNATIVE

(e)(1) — For each power category in which excepted equipment or vehicles are produced, a determination of compliance with the requirements of paragraph (d) of this section must be made. This determination must be made no later than December 31 of the year following the last year in which allowances apply, and must be based on actual production information from the subject years. Should any such determination reveal that both the percentage allowance and the small volume allowance have been exceeded, then the manufacturer is in violation of section 203 of the Act and §89.1003.

(2) — A nonroad equipment or vehicle manufacturer must keep records of all equipment and vehicles excepted under the provisions of paragraph (d) of this section, for each

~~power category in which exceptions are taken. These records must include equipment and engine model numbers, serial numbers, and dates of manufacture, and engine rated power. In addition, the manufacturer must keep records sufficient to demonstrate the annual determination of compliance required in paragraph (e)(1) of this section. All such records must be kept until at least two full years after the final year in which exceptions are available for each power category.~~

~~(f) — *Hardship relief.* Nonroad equipment and vehicle manufacturers, and post-manufacture marinizers, that qualify as small entities under 13 CFR Part 121 may take any of the otherwise prohibited actions identified in §89.1003(a)(1) beyond those allowed under paragraph (d) of this section, subject to approval by the Administrator and the following requirements:~~

~~(1) — Application for relief must be submitted to the Mobile Source Operations Division in writing prior to the earliest date in which the applying manufacturer would be in violation of §89.1003.~~

~~(2) — Evidence must be provided that the conditions causing the impending violation are not substantially the fault of the applying manufacturer.~~

~~(3) — Evidence must be provided that the applying manufacturer may be forced to permanently close or sell its equipment producing operation if relief is not granted.~~

~~(4) — Any relief granted must begin within one year after the implementation date of the standard applying to engines being used in the equipment for which relief is requested, and may not exceed one year in duration.~~

~~(g) — *Allowance for the production of engines.* Engine manufacturers may take any of the otherwise prohibited actions identified in §89.1003(a)(1) with regard to uncertified engines or Tier 1 engines, as appropriate, if the engine manufacturer has received written assurance that the engine is required to meet the demand for engines created under paragraph (d) and (f) of this section.~~

§89.103 Definitions.

~~*****~~

§89.104 Useful life, recall, and warranty periods.

~~(a) — The useful life is a period of 3,000 hours of operation or five years of use, whichever first occurs.~~

~~(b) — Engines are subject to recall testing for a period of 2,250 hours of operation or four years of use, whichever first occurs.~~

~~(c) — Warranties are for 1,500 hours of operation or three years of use, whichever first occurs.~~

~~*****~~

§89.105 Certificate of conformity.

§89.106 Prohibited controls.

§89.107 Defeat devices.

§89.108 Adjustable parameters, requirements.

§89.109 Maintenance instructions and minimum allowable maintenance intervals.

~~(a) — The manufacturer must furnish or cause to be furnished to the ultimate purchaser of each new nonroad engine written instructions for the maintenance needed to ensure proper functioning of the emission control system.~~

~~(b) — Maintenance performed on equipment, engines, subsystems or components used to determine exhaust emission deterioration factors is classified as either emission-related or nonemission-related and each of these can be classified as either scheduled or unscheduled. Further, some emission-related maintenance is also classified as critical emission-related maintenance.~~

~~(c) — This paragraph specifies emission-related scheduled maintenance for purposes of obtaining durability data and for inclusion in maintenance instructions furnished to purchasers of new nonroad engines. The maintenance intervals specified below are minimum intervals.~~

~~(1) — All emission-related scheduled maintenance for purposes of obtaining durability data must occur at the same hours of use intervals that will be specified in the manufacturer's maintenance instructions furnished to the ultimate purchaser of the engine under paragraph (a) of this section. This maintenance schedule may be updated as necessary throughout the testing of the engine, provided that no maintenance operation is deleted from the maintenance schedule after the operation has been performed on the test vehicle or engine.~~

~~(2) — Any emission-related maintenance that is performed on vehicles, engines, subsystems, or components must be technologically necessary to assure in-use compliance with the emission standards. The manufacturer must submit data that demonstrate to the Administrator that all of the emission-related scheduled maintenance that is to be performed is technologically necessary. Scheduled maintenance must be approved by the Administrator prior to being performed or being included in the maintenance instructions provided to the purchasers under paragraph (a) of this section. The Administrator has determined that emission-related maintenance in addition to or at shorter intervals than those outlined in paragraphs (c)(3) and~~

~~(e)(4) of this section is not technologically necessary to ensure in-use compliance and therefore will not be accepted. However, the Administrator may determine that maintenance even more restrictive (e.g., longer intervals) than that listed in paragraphs (e)(3) and (e)(4) of this section is also not technologically necessary.~~

~~(3) — For nonroad compression ignition engines, the adjustment, cleaning, repair, or replacement listed in paragraphs (e)(3)(i) through (e)(3)(iii) of this section must occur at 1,500 hours of use and at 1,500-hour intervals thereafter:~~

~~(i) — Exhaust gas recirculation system related filters and coolers.~~

~~(ii) — Positive crankcase ventilation valve.~~

~~(iii) — Fuel injector tips (cleaning only).~~

~~(4) — The adjustment, cleaning and repair in paragraphs (e)(4)(i) through (e)(4)(vii) of this section must occur at 3,000 hours of use and at 3,000-hour intervals thereafter:~~

~~(i) — Fuel injectors.~~

~~(ii) — Turbocharger.~~

~~(iii) — Electronic engine control unit and its associated sensors and actuators.~~

~~(iv) — Particulate trap or trap oxidizer system (including related components):~~

~~(v) — Exhaust gas recirculation system (including all related control valves and tubing) except as otherwise provided in paragraph (e)(3)(i) of this section.~~

~~(vi) — Catalytic convertor.~~

~~(vii) — Any other add-on emission-related component (i.e., a component whose sole or primary purpose is to reduce emissions or whose failure will significantly degrade emission control and whose function is not integral to the design and performance of the engine).~~

~~(5) — (i) — The components listed in paragraphs (e)(5)(i)(A) through (e)(5)(i)(F) of this section are currently defined as critical emission-related components:~~

~~(A) — Catalytic convertor~~

~~(B) — Electronic engine control unit and its associated sensors and actuators.~~

~~(C) — Exhaust gas recirculation system (including all related filters, coolers, control valves, and tubing).~~

~~(D) — Positive crankcase ventilation valve.~~

~~(E) — Particulate trap or trap oxidizer system.~~

~~(F) — Any other add-on emission-related component (i.e., a component whose sole or primary purpose is to reduce emissions or whose failure will significantly degrade emission control and whose function is not integral to the design and performance of the engine).~~

~~(ii) — All critical emission-related scheduled maintenance must have a reasonable likelihood of being performed in use. The manufacturer will be required to show the reasonable likelihood of such maintenance being performed in use. Critical emission-related scheduled maintenance items that satisfy one of the conditions defined in paragraphs (c)(5)(ii)(A) through (c)(5)(ii)(F) of this section will be accepted as having a reasonable likelihood of the maintenance item being performed in use.~~

~~(A) — Data are presented that establish for the Administrator a connection between emissions and vehicle performance such that as emissions increase due to lack of maintenance, vehicle performance will simultaneously deteriorate to a point unacceptable for typical driving.~~

~~(B) — Survey data are submitted which adequately demonstrate to the Administrator that, at an 80 percent confidence level, 80 percent of such engines already have this critical maintenance item performed in use at the recommended interval(s).~~

~~(C) — A clearly displayed visible signal system approved by the Administrator is installed to alert the equipment operator that maintenance is due. A signal bearing the message “maintenance needed” or “check engine,” or a similar message approved by the Administrator, will be actuated at the appropriate usage point or by component failure. This signal must be continuous while the engine is in operation and not be easily eliminated without performance of the required maintenance. Resetting the signal will be a required step in the maintenance operation. The method for resetting the signal system will be approved by the Administrator. The system must not be designed to deactivate upon the end of the useful life of the engine or thereafter.~~

~~(D) — A manufacturer may desire to demonstrate through a survey that a critical maintenance item is likely to be performed without a visible signal on a maintenance item for which there is no prior in-use experience without the signal. To that end, the manufacturer may in a given model year market up to 200 randomly selected vehicles per critical emission-related maintenance item without such visible signals, and monitor the performance of the critical maintenance item by the owners to show compliance with paragraph (c)(5)(ii)(B) of this section. This option is restricted to two consecutive model years and may not be repeated until any previous survey has been completed. If the critical maintenance involves more than one engine family, the sample will be sales weighted to ensure that it is representative of all the families in question.~~

~~(E) — The manufacturer provides the maintenance free of charge, and clearly informs the customer that the maintenance is free in the instructions provided under paragraph (a) of this section.~~

~~(F) — Any other method that the Administrator approves as establishing a reasonable likelihood that the critical maintenance will be performed in use.~~

~~(iii) — Visible signal systems used under paragraph (c)(5)(ii)(C) of this section are considered an element of design of the emission control system. Therefore, disabling, resetting, or otherwise rendering such signals inoperative without also performing the indicated maintenance procedure is a prohibited act.~~

~~(d) — Nonemission related scheduled maintenance that is reasonable and technologically necessary (e.g., oil change, oil filter change, fuel filter change, air filter change, cooling system maintenance, adjustment of idle speed, governor, engine bolt torque, valve lash, injector lash, timing, lubrication of the exhaust manifold heat control valve, etc.) may be performed on durability vehicles at the least frequent intervals recommended by the manufacturer to the ultimate purchaser, (e.g., not the intervals recommended for severe service).~~

~~(e) — Adjustment of engine idle speed on emission data engines may be performed once before the low-hour emission test point. Any other engine, emission control system, or fuel system adjustment, repair, removal, disassembly, cleaning, or replacement on emission data vehicles must be performed only with advance approval of the Administrator.~~

~~(f) — Equipment, instruments, or tools may not be used to identify malfunctioning, maladjusted, or defective engine components unless the same or equivalent equipment, instruments, or tools will be available to dealerships and other service outlets and:~~

- ~~(1) — Are used in conjunction with scheduled maintenance on such components;~~
or
~~(2) — Are used subsequent to the identification of a vehicle or engine malfunction, as provided in paragraph (e) of this section for emission data engines; or~~
~~(3) — Unless specifically authorized by the Administrator.~~

~~(g) — All test data, maintenance reports, and required engineering reports must be compiled and provided to the Administrator in accordance with §89.124.~~

~~*****~~

§89.110 Emission control information label.

~~*****~~

~~(b) ***~~

- ~~(9) — Family emission limits (FELs) if applicable;~~
~~(10) — The statement: “This engine conforms to [model year] U.S. EPA regulations large nonroad compression ignition engines.”~~
~~(11) — Engines belonging to an engine family that has been certified as a constant-speed engine using the test cycle specified in Table 2 of appendix B to subpart E of this part must contain the statement on the label: “constant speed only”.~~

~~(12) (i) Engines meeting the voluntary standards described in §89.112 (f)(1) to be designated as Blue Sky Series engines must contain the statement on the label: “Blue Sky Class A”.~~

~~(ii) Engines meeting the voluntary standards described in §89.112 (f)(2) to be designated as Blue Sky Series engines must contain the statement on the label: “Blue Sky Class AA”.~~

~~(iii) Engines meeting the voluntary standards described in §89.112 (f)(3) to be designated as Blue Sky Series engines must contain the statement on the label: “Blue Sky Class AAA”.~~

§89.111 Averaging, banking, and trading of exhaust emissions.

§89.112 Oxides of nitrogen, carbon monoxide, hydrocarbon, and particulate matter exhaust emission standards.

~~(a) Nonroad engines to which this subpart is applicable must meet the exhaust emission standards contained in Table 1.~~

Table 1. Emission Standards (g/kW-hr)

Rated Brake Power (kW)	Model Year	NO _x	HC	NMHC + NO _x	CO	PM
kW < 8	2000	—	—	10.5	8.0	1.0
	2005	—	—	7.5	8.0	0.80
8 ≤ kW < 19	2000	—	—	9.5	6.6	0.80
	2005	—	—	7.5	6.6	0.80

(b) — Exhaust emissions of oxides of nitrogen, carbon monoxide, hydrocarbon, and nonmethane hydrocarbon are measured using the procedures set forth in subpart E of this part.

(d) — In lieu of the NO_x standards, NMHC + NO_x standards, and PM standards specified in paragraph (a) of this section, manufacturers may elect to include engine families in the averaging, banking, and trading program, the provisions of which are specified in subpart C of this part. The manufacturer must set a family emission limit (FEL) not to exceed the levels contained in Table 2. This FEL established by the manufacturer serves as the standard for that engine family.

Table 2. — Upper Limit for Family Emission Limits (g/kW hr)

Rated Brake Power (kW)	Model Year	NO _x FEL	NMHC+NO _x FEL	PM FEL
kW<8	2000	—	16.0	1.2
	2005	—	10.5	1.0
8≤kW<19	2000	—	16.0	1.2
	2005	—	9.5	0.80

(e) — Naturally aspirated nonroad engines to which this subpart is applicable must not discharge crankcase emissions into the ambient atmosphere. This provision applies to all 2001 model year engines and later models. This provision does not apply to engines using turbochargers, pumps, blowers, or superchargers for air induction.

(f) — Engines may be designated “Blue Sky Series” engines through the 2004 model year by meeting the following voluntary standards, that apply to all certification and in-use testing. Emissions are measured using the procedures set forth in part 86, subpart N. Manufacturers may use an alternate procedure to demonstrate the desired level of emission control if approved in advance by the Administrator. Engines meeting the requirements to qualify as Blue Sky Series engines must be capable of maintaining a comparable level of emission control when tested using the procedures set forth in paragraph (c) of this section and subpart E of this part. The numerical emission levels measured using the procedures from this part may be up to 20 percent higher than those measured using the procedures from part 86, subpart N and still be considered comparable. Engines designated as Blue Sky Series engines must meet the requirements related to in-use durability detailed in §§89.104, 89.109, 89.118, and 89.130; alternatively, manufacturers may fulfill these requirements with the comparable provisions from part 86.

~~(1) — Engines certified to voluntary standards at least 35 percent below the numerical level established for Tier 2 engines, for both particulate matter and NMHC + NO_x, may be designated as a “Blue Sky Series engine—Class A”. Manufacturers must also demonstrate compliance with the numerical level established for CO emissions from the applicable tier of engines, as described in paragraph (a) of this section, and with the smoke emission standards described in §86.113. This designation will no longer be available beginning in the year for which Tier 2 standards apply to an engine's power category.~~

~~(2) — Engines certified to voluntary standards at least 50 percent below the numerical level established for Tier 2 engines, for both particulate matter and NMHC + NO_x, may be designated as a “Blue Sky Series engine—Class AA”. Manufacturers must also demonstrate compliance with the numerical level established for CO emissions from the applicable tier of engines, as described in paragraph (a) of this section, and with the smoke emission standards described in §86.113.~~

~~(3) — Engines certified to voluntary standards at least 65 percent below the numerical level established for Tier 2 engines, for both particulate matter and NMHC + NO_x, may be designated as a “Blue Sky Series engine—Class AAA”. Manufacturers must also demonstrate compliance with the numerical level established for CO emissions from the applicable tier of engines, as described in paragraph (a) of this section, and with the smoke emission standards described in §86.113.~~

~~*****~~

§89.113 Smoke emission standard.

~~*****~~

§89.114 Special test procedures.

~~*****~~

§89.115 Application for certificate.

~~*****~~

~~(e) — The application will be updated and corrected by amendment as provided for in Sec. 89.123 to accurately reflect the manufacturer's production.~~

~~*****~~

~~(d) — (1) — A description of the basic engine design including, but not limited to, the engine family specifications, the provisions of which are contained in Sec. 89.116.~~

~~*****~~

~~(f) — (1) — The Administrator may modify the information submission requirements of paragraph (d) of this section, provided that all of the information specified therein is maintained by~~

the engine manufacturer as required by Sec. 89.124, and amended, updated, or corrected as necessary.

(2) — For the purposes of this paragraph, Sec. 89.124(a)(1) includes all information specified in paragraph (d) of this section whether or not such information is actually submitted to the Administrator for any particular model year.

§89.116 Engine families.

§89.117 Test fleet selection.

(a) — The manufacturer must select for testing, from each engine family, the engine with the most fuel injected per stroke of an injector, primarily at the speed of maximum torque and secondarily at rated speed.

(d) — For establishing deterioration factors, the manufacturer must select the engines, subsystems, or components to be used to determine exhaust emission deterioration factors for each engine family control system combination. Whether engines, subsystems, or components are used, they must be selected so that their emission deterioration characteristics may be expected to represent those of in-use engines, based on good engineering judgment.

§89.118 Service accumulation.

(e) — This paragraph describes service accumulation requirements for the purpose of deterioration factor development. Paragraphs (b) through (d) of this section also apply here.

(1) — *Service accumulation on engines, subsystems, or components selected by the manufacturer under §89.117 (d).* The manufacturer determines the form and extent of this service accumulation, consistent with good engineering practice, and describes it in the application for certification.

(2) — *Determination of exhaust emission deterioration factors.* The manufacturer determines the form and extent of the service accumulation, consistent with good engineering practice, and describes it in the application for certification.

(3) — *Alternatives to service accumulation and testing for the determination of a deterioration factor.* A written explanation of the appropriateness of using an alternative must be included in the application for certification.

~~(i) — *Carryover and carryacross of durability emission data.* In lieu of testing an emission data or durability data engine selected under §89.117 (d), and submitting data therefore, a manufacturer may, with the approval of the Administrator, submit exhaust emission deterioration data on a similar engine for which certification to the same standard has previously been obtained or for which all applicable data required under §89.124 has previously been submitted.~~

~~(ii) — *Use of on-highway deterioration data.* In the case where a manufacturer produces a certified on-highway engine that is similar to the nonroad engine to be certified, deterioration data from the on-highway engine may be applied to the nonroad engine. This application of deterioration data from an on-highway engine to a nonroad engine is subject to Administrator approval, and the determination of whether the engines are similar must be based on good engineering judgment.~~

~~(iii) — *Engineering analysis for established technologies.* In the case where an engine family uses technology that is well established, an analysis based on good engineering practices may be used in lieu of testing to determine a deterioration factor for that engine family. The engineering analysis and the determination of whether or not an engine is using established technologies are both subject to Administrator approval.~~

§89.119 Emission tests.

~~*****~~

~~(a) — (1) — Upon completion of service accumulation, the manufacturer must test each test engine using the specified test procedures, except as provided in Sec. 89.114-96. The procedures to be used are set forth in:~~

~~*****~~

~~(d) — Test fuels.~~

§89.120 Compliance with emission standards.

~~*****~~

~~(e) — For each nonroad compression ignition engine family, a deterioration factor must be determined and applied.~~

~~(1) — The applicable exhaust emission standards (or family emission limits, as appropriate) for nonroad compression ignition engines apply to the emissions of engines for their useful life.~~

~~(2) — Since emission control efficiency generally decreases with the accumulation of service on the engine, deterioration factors will be used in combination with emission data engine test results as the basis for determining compliance with the standards.~~

~~(3) — (i) — Paragraph (c)(3) of this section describes the procedure for determining compliance of an engine with emission standards (or family emission limits, as~~

appropriate), based on deterioration factors supplied by the manufacturer. Deterioration factors be established using applicable emission test procedures. NMHC + NO_x deterioration factors must be established based on the sum of the pollutants. When establishing deterioration factors for NMHC + NO_x, a negative deterioration (emissions decrease from the official emissions test result) for one pollutant may not offset deterioration of the other pollutant. Where negative deterioration occurs for NO_x or NMHC, the official exhaust emission test result must be used for purposes of determining the NMHC + NO_x deterioration factor.

(ii) — Separate exhaust emission deterioration factors, determined from tests of engines, subsystems, or components conducted by the manufacturer, must be supplied for each engine-system combination. Separate factors must be established for NMHC, CO, NO_x, NMHC + NO_x, and exhaust particulate. For smoke testing, separate factors must also be established for the acceleration mode (designated as “A”), the lugging mode (designated as “B”), and peak opacity (designated as “C”).

(iii) — *Compression ignition nonroad engines not utilizing aftertreatment technology (e.g., particulate traps).* For NMHC, CO, NO_x, NMHC + NO_x, and exhaust particulate, the official exhaust emission results for each emission data engine at the selected test point must be adjusted by addition of the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than zero, it must be zero for the purposes of this paragraph.

(iv) — *Compression ignition nonroad engines utilizing aftertreatment technology (e.g., particulate traps).* For NMHC, CO, NO_x, NMHC + NO_x, and exhaust particulate, the official exhaust emission results for each emission data engine at the selected test point must be adjusted by multiplication by the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than one, it must be one for the purposes of this paragraph.

(v) — For acceleration smoke (“A”), lugging smoke (“B”), and peak opacity (“C”), the official exhaust emission results for each emission data engine at the selected test point must be adjusted by the addition of the appropriate deterioration factor. However if the deterioration supplied by the manufacturer is less than zero, it must be zero for the purposes of this paragraph.

(vi) — The emission values to compare with the standards (or family emission limits, as appropriate) must be the adjusted emission values of paragraphs (c)(3)(iii) through (v) of this section, rounded to the same number of significant figures as contained in the applicable standard in accordance with ASTM E29-93a, for each emission data engine. This procedure has been incorporated by reference (see §89.6).

(4) — Every test engine of an engine family must comply with all applicable standards (or family emission limits, as appropriate), as determined in paragraph (c)(3)(vi) of this section, before any engine in that family will be certified.

(e) — For the purposes of setting an NMHC + NO_x certification level or FEL, one of the following options must be used for the determination of NMHC for an engine family. The

manufacturer must declare that option is used in its application for certification of that engine family.

~~(1) — THC may be used in lieu of NMHC for the standards set forth in §89.112.~~

~~(2) — The manufacturer may choose its own method to analyze methane with prior approval of the Administrator.~~

~~(3) — The manufacturer may assume that two percent of the measured THC is methane (NMHC = 0.98 × THC).~~

§89.121 Certificate of conformity effective dates.

§89.122 Certification.

§89.123 Amending the application and certificate of conformity.

§89.124 Record retention, maintenance, and submission.

§89.125 Production engines, annual report.

§89.126 Denial, revocation of certificate of conformity.

~~(b) — (5) — The manufacturer denies an EPA enforcement officer of EPA authorized representative reasonable assistance (as defined in Sec. 89.129(e)).~~

~~(c) — If a manufacturer knowingly commits an infraction specified in paragraph (b)(1) or (b)(4) of this section, knowingly commits any other fraudulent act that results in the issuance of a certificate of conformity, or fails to comply with the conditions specified in Secs. 89.203 (d), 89.206(e), 89.209(e) or 89.210(g), the Administrator may deem such certificate void *ab initio*.~~

~~(d) — When the Administrator denies, suspends, revokes, or voids *ab initio* a certificate of conformity the manufacturer will be provided a written determination. The manufacturer may request a hearing under Sec. 89.127 on the Administrator's decision.~~

§89.127 Request for hearing.

§89.128 Hearing procedures.

~~(b) — (1) — (i) — The determination issued by the Administrator under Sec. 89.126(d);~~

§89.129 Right of entry.

§89.130 Rebuild practices.

~~(a) — The provisions of this section are applicable to engines subject to the standards prescribed in section §89.112 and are applicable to the process of engine rebuilding (or rebuilding a portion of an engine or engine system). The process of engine rebuilding generally includes disassembly, replacement of multiple parts due to wear, and reassembly, and also may include the removal of the engine from the vehicle and other acts associated with rebuilding an engine. Any deviation from the provisions contained in this section is a prohibited act.~~

~~(b) — When rebuilding an engine, portions of an engine, or an engine system, there must be a reasonable technical basis for knowing that the resultant engine is equivalent, from an emissions standpoint, to a certified configuration (i.e., tolerances, calibrations, specifications) of the same or newer model year as the original engine. A reasonable basis would exist if:~~

~~(1) — Parts installed, whether the parts are new, used, or rebuilt, are such that a person familiar with the design and function of motor vehicle engines would reasonably believe that the parts perform the same function with respect to emission control as the original parts, and~~

~~(2) — Any parameter adjustment or design element change is made only:~~

~~(i) — in accordance with the original engine manufacturer's instructions;~~

~~or~~

~~(ii) — where data or other reasonable technical basis exists that such parameter adjustment or design element change, when performed on the engine or similar engines, is not expected to adversely affect in-use emissions.~~

~~(c) — When an engine is being rebuilt and remains installed or is reinstalled in the same equipment, it must be rebuilt to a configuration of the same or later model year as the original engine. When an engine is being replaced, the replacement engine must be an engine of (or rebuilt to) a configuration of the same or later model year as the original engine.~~

~~(d) — At time of rebuild, emission-related codes or signals from on-board monitoring systems may not be erased or reset without diagnosing and responding appropriately to the diagnostic codes, regardless of whether the systems are installed to satisfy requirements in §89.109 or for other reasons and regardless of form or interface. Diagnostic systems must be free of all such codes when the rebuilt engine is returned to service. Such signals may not be rendered inoperative during the rebuilding process.~~

~~(e) — When conducting a rebuild without removing the engine from the equipment, or during the installation of a rebuilt engine, all critical emission-related components listed in §86.109-99(d) not otherwise addressed by paragraphs (b) through (d) of this section must be checked and cleaned, adjusted, repaired, or replaced as necessary, following manufacturer recommended practices.~~

~~(f) — Records must be kept by parties conducting activities included in paragraphs (b) through (e) of this section. The records must include at minimum the hours of operation at time of rebuild, a listing of work performed on the engine, and emission-related control components including a listing of parts and components used, engine parameter adjustments, emission-related codes or signals responded to and reset, and work performed under paragraph (e) of this section.~~

~~(1) — Parties may keep records in whatever format or system they choose as long as the records are understandable to an ARB enforcement officer or can be otherwise provided to an ARB enforcement officer in an understandable format when requested.~~

~~(2) — Parties are not required to keep records of information that is not reasonably available through normal business practices including information on activities not conducted by themselves or information that they cannot reasonably access.~~

~~(3) — Parties may keep records of their rebuilding practices for an engine family rather than on each individual engine rebuilt in cases where those rebuild practices are followed routinely.~~

~~(4) — Records must be kept for a minimum of two years after the engine is rebuilt.~~

Subpart C—Averaging, Banking, and Trading Provisions

§89.201 Applicability.

§89.202 Definitions.

§89.203 General provisions.

~~(a) — The averaging, banking, and trading programs for NO_x, NMHC + NO_x, and PM emissions from eligible nonroad engines are described in this subpart. Participation in these programs is voluntary.~~

~~(b) — DELETE~~

~~(c) — DELETE,~~

REPLACE WITH:

~~(e) — (1) — A nonroad engine family is eligible to participate in the averaging, banking, and trading program for NMHC + NO_x emissions and PM emissions if it is subject to regulation under subpart B of this part with certain exceptions specified in subsection (c)(2) of this section. No averaging, banking, and trading program is available for meeting the CO or smoke emission standards specified in subpart B of this part.~~

~~(2) — Nonroad engines may not participate in the averaging, banking, and trading program if they are subject to state engine emission standards, are exported, or use an alternate or special test procedure under §89.114. Meeting the voluntary standards described in §89.112 (f) for Blue Sky Series engines does not preclude participation in the averaging, banking, and trading program; however, participation in the averaging, banking, and trading program depends on manufacturers developing test data on a steady state test cycle, as specified in §89.410 (a), for credit computation purposes.~~

~~(3) — (i) — A manufacturer may certify one or more nonroad engine families at FELs above or below the applicable NMHC + NO_x emission standard and PM emission standard, provided the summation of the manufacturer's projected balance of all NMHC + NO_x credit transactions and the summation of the manufacturer's projected balance of all PM credit transactions in a given model year in a given averaging set is greater than or equal to zero, as determined under §89.207 (b).~~

~~(A) — FELs for NMHC + NO_x and FELs for PM may not exceed the upper limits specified in §89.112 (d). —~~

~~(B) — An engine family certified to an FEL is subject to all provisions specified in subparts B, D, E, F, G, H, I, J, and K of this part, except that the applicable FEL replaces the emission standard for the family participating in the averaging, banking, and trading program.~~

~~(C) — A manufacturer of an engine family with an FEL exceeding the applicable emission standard must obtain emission credits sufficient to address the associated credit shortfall via averaging, banking, or trading, within the restrictions described in §89.204 (c) and §89.206 (b)(4).~~

~~(D) — An engine family with an FEL below the applicable standard may generate emission credits for averaging, banking, trading, or a combination thereof. Emission credits may not be used to offset an engine family's emissions that exceed its applicable FEL. Credits may not be used to remedy nonconformity determined by a Selective Enforcement Audit (SEA) or by recall (in-use) testing. However, in the case of an SEA failure, credits may be used to allow subsequent production of engines for the family in question if the manufacturer elects to recertify to a higher FEL.~~

~~(ii) — (A) — In lieu of generating credits under paragraph (c)(3)(i) of this section, a manufacturer may certify one or more nonroad engine families at family emission limits (FELs) above or below the applicable NMHC + NO_x emission standard and PM emission standard. The summation of the manufacturer's projected balance of all NMHC + NO_x credit transactions and the summation of the manufacturer's projected balance of all PM credit transactions in a given model year, as determined under §89.207 (b), is allowed to be less than zero.~~

~~(B) — A penalty equal to ten percent of the year end negative credit balance must be added to the negative credit balance. The resulting negative credit balance must be carried into the next model year.~~

~~(C) — A manufacturer will be allowed to carry over a negative credit balance until December 31, 2003. As of this date, the summation of the manufacturer's projected balance of all NMHC + NO_x credit transactions and the summation of the manufacturer's projected balance of all PM credit transactions must be greater than or equal to zero.~~

~~(D) — FELs for NMHC + NO_x and FELs for PM may not exceed the upper limits specified in §89.112 (d).~~

~~(E) — An engine family certified to an FEL is subject to all provisions specified in subparts B, D, E, F, G, H, I, J, and K of this part, except that the applicable NMHC + NO_x FEL or PM FEL replaces the NMHC + NO_x emission standard or PM emission standard for the family participating in the averaging and banking program.~~

~~(F) — A manufacturer of an engine family with an FEL exceeding the applicable emission standard must obtain emission credits sufficient to address the associated credit shortfall via averaging or banking. The exchange of emission credits generated under this program with other nonroad engine manufacturers in trading is not allowed.~~

~~(G) — An engine family with an FEL below the applicable standard may generate emission credits for averaging, banking, or a combination thereof. Emission credits may not be used to offset an engine family's emissions that exceed its applicable FEL. Credits may not be used to remedy nonconformity determined by a Selective Enforcement Audit (SEA) or by recall (in-use) testing. However, in the case of an SEA failure, credits may be used to allow subsequent production of engines for the family in question if the manufacturer elects to recertify to a higher FEL.~~

~~(4) — (i) — Except as noted in paragraphs (c)(4)(ii), (c)(4)(iii), and (c)(4)(iv) of this section, credits generated in a given model year may be used in any following model year. Except as allowed under paragraph (c)(3)(ii) of this section, credits generated in one model year may not be used for prior model years.~~

~~(ii) — Credits generated prior to the implementation date of the applicable Tier 2 standards, will expire on December 31, 2007.~~

~~(iii) — Credits generated under the provisions of paragraph (c)(3)(ii) will expire on December 31, 2003.~~

~~(d) — DELETE,~~

~~REPLACE WITH:~~

~~(d) — Manufacturers must demonstrate compliance under the averaging, banking, and trading program for a particular model year by 270 days after the model year. Engine families without an adequate amount of emission credits, except as allowed under paragraph (c)(3)(ii) of this section, will violate the conditions of the certificates of conformity. The certificates of conformity may be voided *ab initio* under §89.126 (e) for those engine families.~~

~~(e) — DELETE,~~

~~REPLACE WITH:~~

~~Engine families may not generate credits for one pollutant while also using credits for another pollutant in the same model year.~~

~~(f) — DELETE,~~

~~REPLACE WITH:~~

~~An engine manufacturer may make exchange NMHC + NO_x emission credits and PM credits to equipment or vehicle manufacturers in trading. Such credits may be used within the provisions specified in §89.102 (d)(3).~~

§89.204 Averaging.

~~(a) — DELETE~~

~~(b) — DELETE,~~

~~REPLACE WITH:~~

~~(b) — (1) — A manufacturer may use averaging to offset an emission exceedance of a nonroad engine family caused by an NMHC + NO_x FEL or a PM FEL above the applicable emission standard. Credits used in averaging may be obtained from credits generated by another~~

~~engine family in the same model year, credits banked in previous model years that have not expired, or credits obtained through trading. The use of credits must be within the restrictions described in paragraph (c) of this section and §89.206 (b)(4).~~

~~(2) — Credits scheduled to expire in the earliest model year must be used first, before using other available credits.~~

§89.205 Banking.

~~(a) — A manufacturer of a nonroad engine family with an NMHC + NO_x FEL or a PM FEL below the applicable standard for a given model year may bank credits in that model year for use in averaging and trading in any following model year.~~

~~(b) — A manufacturer of a nonroad engine family may bank credits prior to the effective date of mandatory certification. Such engines must meet the requirements of subparts A, B, D, E, F, G, H, I, J, and K of this part.~~

~~(c) — A manufacturer may bank actual credits only after the end of the model year and after EPA has reviewed the manufacturer's end-of-year reports. During the model year and before submittal of the end-of-year report, credits originally designated in the certification process for banking will be considered reserved and may be redesignated for trading or averaging in the end-of-year report and final report.~~

~~(d) — Credits declared for banking from the previous model year that have not been reviewed by ARB may be used in averaging or trading transactions. However, such credits may be revoked at a later time following ARB review of the end-of-year report or any subsequent audit actions.~~

§89.206 Trading.

~~(b) — Credits for trading can be obtained from credits banked in previous model years that have not expired or credits generated during the model year of the trading transaction.~~

~~(c) — Traded credits can be used for averaging, banking, or further trading transactions within the restrictions described in §89.204 (b) and paragraph (b) of this section.~~

~~(d) — In the event of a negative credit balance resulting from a transaction, both the buyer and seller are liable, except in cases involving fraud. Certificates of all engine families participating in a negative trad may be voided *ab initio* under §89.126(c).~~

§89.207 Credit calculation.

~~For each participating engine family, NO_x + NMHC emission credits and PM emission credits (positive or negative) are to be calculated according to one of the following equations and rounded, in accordance with ASTM E29-93a, to the nearest one-tenth of a megagram (Mg). ASTM E29-93a has been incorporated by reference. (see §89.6). Consistent units are to be used throughout the equation.~~

~~(a) — For determining credit availability from all engine families generating credits:~~

$$\text{Emission credits} = (\text{Std} - \text{FEL}) \times (\text{Volume}) \times (\text{AvgPR}) \times (\text{UL}) \times (10^{-6})$$

~~(b) — For determining credit usage for all engine families requiring credits to offset emissions in excess of the standard:~~

$$\text{Emission credits} = (\text{Std} - \text{FEL}) \times (\text{Volume}) \times (\text{AvgPR}) \times (\text{UL}) \times (10^{-6})$$

Where:

~~Std = the current and applicable nonroad Tier 2 engine emission standard, in grams per brake horsepower hour. (Engines participating in the averaging and banking program provisions of §89.203 (c)(3)(ii) must use the Tier 1 standard for credit calculations.)~~

~~FEL = the family emission limit for the engine family in grams per brake horsepower hour.~~

~~Volume = the number of nonroad engines eligible to participate in the averaging, banking, and trading program within the given engine family during the model year. Engines sold to equipment or vehicle manufacturers under the provisions of §89.102(g) must not be included in this number. Quarterly production projections are used for initial certification. Actual applicable production/sales volumes is used for end-of-year compliance determination.~~

~~AvgPR = the average power rating of all of the configurations within an engine family, calculated on a sales-weighted basis.~~

~~UL = the useful life for the given engine family, in hours.~~

§89.208 Labeling.

~~For all nonroad engines included in the averaging, banking, and trading program, the family emission limits to which the engine is certified must be included on the label required in §89.110.~~

§89.209 Certification.

~~(a) — In the application for certification a manufacturer must:~~

~~(1) — Declare its intent to include specific engine families in the averaging, banking, and trading program.~~

~~(2) — Submit a statement that the engines for which certification is requested will not, to the best of the manufacturer's belief, cause the manufacturer to have a negative credit balance when all credits are calculated for all the manufacturer's engine families participating in the averaging, banking, and trading program, except as allowed under §89.203 (c)(3)(ii).~~

~~(3) — Declare the applicable FELs for each engine family participating in averaging, banking, and trading.~~

~~(i) — The FEL must be to the same number of significant digits as the emission standard for the applicable pollutant.~~

~~(ii) — In no case may the FEL exceed the upper limits prescribed in §89.112 (d).~~

~~(4) — Indicate the projected number of credits generated/needed for this family; the projected applicable production/sales volume, by quarter; and the values required to calculate credits as given in §89.207.~~

~~(5) — Submit calculations in accordance with §89.207 of projected emission credits (positive or negative) based on quarterly production projections for each participating family.~~

~~(6) — (i) — If the engine family is projected to have negative emission credits, state specifically the source (manufacturer/engine family or reserved) of the credits necessary to offset the credit deficit according to quarterly projected production, or, if the engine family is to be included in the provisions of §89.203 (c)(3)(ii), state that the engine family will be included in those provisions.~~

~~(ii) — If the engine family is projected to generate credits, state specifically (manufacturer/engine family or reserved) where the quarterly projected credits will be applied.~~

~~* * * * *~~

§89.210 Maintenance of records.

~~*****~~

~~(b) — The manufacturer of any nonroad engine family that is certified under the averaging, banking, and trading program must establish, maintain, and retain the following adequately organized and indexed records for each such family:~~

- ~~(1) — EPA engine family;~~
- ~~(2) — Family emission limits (FEL);~~
- ~~(3) — Power rating for each configuration tested;~~
- ~~(4) — Projected applicable production/sales volume for the model year; and~~
- ~~(5) — Actual applicable production/sales volume for the model year.~~

~~(c) — Any manufacturer producing an engine family participating in trading reserved credits must maintain the following records on a quarterly basis for each engine family in the trading program:~~

- ~~(1) — The engine family;~~
- ~~(2) — The actual quarterly and cumulative applicable production/sales volume;~~
- ~~(3) — The values required to calculate credits as given in §89.207;~~
- ~~(4) — The resulting type and number of credits generated/required;~~
- ~~(5) — How and where credit surpluses are dispersed; and~~
- ~~(6) — How and through what means credit deficits are met.~~

~~*****~~

§89.211 End-of-year and final reports.

~~(a) — End of year and final reports must indicate the engine family, the actual applicable production/sales volume, the values required to calculate credits as given in §89.207, and the number of credits generated/required. Manufacturers must also submit how and where credit surpluses were dispersed (or are to be banked) and/or how and through what means credit deficits were met. Copies of contracts related to credit trading must be included or supplied by the broker, if applicable. The report must include a calculation of credit balances to show that the summation of the manufacturer's use of credits results in a credit balance equal to or greater than zero, except as allowed under §89.203 (c)(3)(ii).~~

~~*****~~

~~(c) — (1) — End of year reports must be submitted within 90 days of the end of the model year to: Chief, Mobile Source Operations Division, 9528 Telstar Avenue, El Monte, CA 91731.~~

~~(2) — Final reports must be submitted within 270 days of the end of the model year to: Chief, Mobile Source Operations Division, 9528 Telstar Avenue, El Monte, CA 91731.~~

~~*****~~

§89.212 Notice of opportunity for hearing

~~Any voiding of the certificate under §§ 89.203 (d), 89.206 (e), 89.209 (e) and 89.210 (g) will be made only after the manufacturer concerned has been offered an opportunity for a hearing conducted in accordance with §§ 89.512 and 89.513 and, if a manufacturer requests such a hearing, will be made only after an initial decision by the Presiding Officer.~~

Subpart D—Emission Test Equipment Provisions

§89.302 Definitions.

~~The definitions in subpart A of part 89 apply to this subpart. For terms not defined in part 89, the definitions in part 86, subparts A, D, I, and N apply to this subpart.~~

Subpart E—Exhaust Emission Test Procedures

Subpart F—Selective Enforcement Auditing

Subpart G—Importation of Nonconforming Nonroad Engines

§89.602 Definitions.

* * * * *

~~*Fifteen working day hold period.* The period of time between a request for final admission and the automatic granting of final admission (unless ARB intervenes) for a nonconforming nonroad engine conditionally imported pursuant to §89.605 or §89.609. Day one of the hold period is the first working day (see definition for “working day” in this section) after the Mobile Source Operations Division of ARB receives a complete and valid application for final admission.~~

* * * * *

§89.603 General requirements for importation of nonconforming nonroad engines.

~~* * * * *~~

~~(d) The ICI must submit to the Mobile Source Operations Division of ARB a copy of all approved applications for certification used to obtain certificates of conformity for the purpose of importing nonconforming nonroad engines pursuant to §89.605 or §89.609. In addition, the ICI must submit to the Mobile Source Operations Division a copy of all approved production changes implemented pursuant to Sec. 89.605 or subpart B of this part. Documentation submitted pursuant to this paragraph must be provided to the Mobile Source Operations Division within 10 working days of approval of the certification application (or production change) by the Mobile Source Operations Division of ARB.~~

§89.604 Conditional admission.

~~* * * * *~~

~~(c) * * *~~

~~(4) A copy of the written record is to be submitted to the Mobile Source Operations Division of ARB within five working days of the transfer date.~~

~~(d) Notwithstanding any other requirement of this subpart or U.S. Customs Service regulations, an ICI may also assume responsibility for the modification and testing of a nonconforming nonroad engine that was previously imported by another party. The ICI must be a holder of a currently valid certificate of conformity for that specific nonroad engine or authorized to import it pursuant to §89.609 at the time of assuming such responsibility. The ICI must comply with all the requirements of §89.603, §89.604, and either §89.605 or §89.609, as applicable. For the purposes of this subpart, the ICI has "imported" the nonroad engine as of the date the ICI assumes responsibility for the modification and testing of the nonroad engine. The ICI must submit written notification to the Mobile Source Operations Division of ARB within 10 working days of the assumption of that responsibility.~~

§89.605 Final admission of certified nonroad engines.

~~(a) * * *~~

~~(2) * * *~~

~~(i) The ICI attests that the nonroad engine has been modified in accordance with the provisions of the ICI's certificate of conformity; presents to ARB a statement written by the applicable Original Engine Manufacturer (OEM) that the OEM must provide to the ICI, and to ARB, information concerning production changes to the class of nonroad engines described in the ICI's application for certification; delivers to the Mobile Source Operations Division of ARB notification by the ICI of any production changes already implemented by the OEM at the time of application and their effect on emissions; and obtains from ARB written approval to use this demonstration option; or~~

~~* * * * *~~

~~(a)(3) * * *~~

~~(vi) A report concerning these production changes is to be made to the Mobile Source Operations Division of ARB within ten working days of initiation of the production change. The cause of any failure of an emission test is to be identified, if known;~~

~~* * * * *~~

~~(e) Except as provided in paragraph (b) of this section, ARB approval for final admission of a nonroad engine under this section is presumed to have been granted if the ICI does not receive oral or written notice from ARB to the contrary within 15 working days of the date that the Mobile Source Operations Division of ARB receives the ICI's application under paragraph (a) of this section. ARB notice of nonapproval may be made to any employee of the ICI. It is the responsibility of the ICI to ensure that the Mobile Source Operations Division of ARB receives the application and to confirm the date of receipt. During this 15 working day hold period, the nonroad engine is to be stored at a location where the Administrator has reasonable access to the nonroad engine for the Administrator's inspection. The storage is to be within 50 miles of the ICI's testing facility to allow the Administrator reasonable access for inspection and testing. A storage facility not meeting this criterion must be approved in writing by the Administrator prior to the submittal of the ICI's application under paragraph (a) of this section.~~

§89.609 Final admission of modification nonroad engines and test nonroad engines.

~~* * * * *~~

~~(d) Except as provided in paragraph (c) of this section, ARB approval for final admission of a nonroad engine under this section is presumed to have been granted if the ICI does not receive oral or written notice from ARB to the contrary within 15 working days of the date that the Mobile Source Operations Division of ARB receives the ICI's application under paragraph (b) of this section. Such ARB notice of nonapproval may be made to any employee of the ICI. It is the responsibility of the ICI to ensure that the Mobile Source Operations Division of ARB receives the application and to confirm the date of receipt. During this 15 working day hold period, the nonroad engine is stored at a location where the Administrator has reasonable access to the nonroad engine for the Administrator's inspection. The storage is to be within 50 miles of the ICI's testing facility to allow the Administrator reasonable access for inspection and testing. A storage facility not meeting this criterion must be approved in writing by the Administrator prior to the submittal of the ICI's application under paragraph (b) of this section.~~

~~* * * * *~~

§89.610 Maintenance instructions, warranties, emission labeling.

~~* * * * *~~

~~(b) Warranties. (1) ICIs must submit to the Mobile Source Operations Division of ARB sample copies (including revisions) of any warranty documents required by this section prior to importing nonroad engines under this subpart.~~

~~* * * * *~~

§89.611 Exemptions and exclusions.

* * * * *

~~(g) An application for exemption and exclusion provided for in paragraphs (b), (c), and (e) of this section is to be mailed to: Chief, Mobile Source Operations Division, 9528 Telstar Avenue, El Monte, CA 91731.~~

Subpart H—Recall Regulations

Subpart I—Emission Defect Reporting Requirements

Subpart J—Exemption Provisions

§89.903 Application of section 216(10) of the Act.

* * * * *

~~(b) ARB will maintain a list of nonroad engines that have been determined to be excluded because they are used solely for competition. This list will be available to the public and may be obtained by writing to the following address: Chief, Mobile Source Operations Division, 9528 Telstar Avenue, El Monte, CA 91731.~~

* * * * *

§89.905 Testing exemption

* * * * *

~~(f) A manufacturer of new nonroad engines may request a testing exemption to cover nonroad engines intended for use in test programs planned or anticipated over the course of a subsequent one-year period. Unless otherwise required by the Chief, Mobile Source Operations Division, a manufacturer requesting such an exemption need only furnish the information required by paragraphs (a)(1) and (d)(2) of this section along with a description of the record-keeping and control procedures that will be employed to assure that the engines are used for purposes consistent with paragraph (a) of this section.~~

§89.906 Manufacturer-owned exemption and precertification exemption.

~~(a) * * *~~

~~(3) Unless the requirement is waived or an alternate procedure is approved by the Chief, Mobile Source Operations, the manufacturer must permanently affix a label to each nonroad engine on exempt status. This label should:~~

* * * * *

~~(a)(3)(iii) * * *~~

~~(D) The statement "This nonroad engine is exempt from the prohibitions of 40 CFR 90.1003."~~

~~* * * * *~~

~~(b) Any independent commercial importer that desires a precertification exemption pursuant to §89.611(b)(3) and is in the business of importing, modifying, or testing uncertified nonroad engines for resale under the provisions of subpart G of this part, must apply to the Chief, Mobile Source Operations. The Chief may require such independent commercial importer to submit information regarding the general nature of the fleet activities, the number of nonroad engines involved, and a demonstration that adequate record-keeping procedures for control purposes will be employed.~~

§89.911 Submission of exemption requests.

~~Requests for exemption or further information concerning exemptions and/or the exemption request review procedure should be addressed to: Chief, Mobile Source Operations Division, 9528 Telstar Avenue, El Monte, CA 91731.~~

Subpart K—General Enforcement Provisions and Prohibited Acts

~~*****~~